

OFFICE OF SPECIES CONSERVATION

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November 25, 2002

Delivered by hand and fax

Mr. Robert Ruesink
Supervisor, U.S. Fish and Wildlife Service
Snake River Basin Office
1387 S. Vinnell Way
Boise, ID 83709

RE: Notice and request for comments on the proposed listing of *Lepidium papilliferum* under
50 CFR 17

Dear Robert:

The Office of Species Conservation, Department of Agriculture, Department of Fish and Game, and the Department of Parks and Recreation submit the following comments in response to the proposed rule for *L. papilliferum*.

The State of Idaho agrees that abundance and distribution of *L. papilliferum* has declined due primarily to loss of and degradation of habitat and that it remains vulnerable to ongoing habitat loss and degradation. However, we do not feel that the US Fish and Wildlife Service (Service) has made a convincing case that *L. papilliferum* warrants listing as endangered because the scientific evidence does not indicate the plant is in imminent danger of range wide extinction. In addition, management programs are already in place in important portions of the occupied range to protect *L. papilliferum* and its habitat. The Idaho National Guard has identified occupied range in its Integrated Natural Resource Management Plan and has in place a number of conservation measures to protect habitat and populations of *L. papilliferum* on the Orchard Training Area. The life history of the plant, namely the viability of the seed for up to twelve years, provides some margin of safety in terms of the short-term (5 to 10 years) persistence of the species if its habitat is not lost or degraded. In short, we do have some time to develop management strategies to ensure the long-term persistence of the species and conserve remaining habitat.

Habitat and Population Trend

The historic distribution of the plant is likely correlated to the presence of specific soil types in sagebrush steppe habitat that have slickspots and is therefore fairly well understood. Significant portions of suitable habitat (presence of slick spots) within the historic range have been lost to agricultural and urban development, particularly in Canyon and Ada counties. Permanent loss of habitat to rural developments and subdivisions is a relatively recent contributor to habitat loss and will likely continue. Nearly all of the remaining suitable sagebrush steppe habitat has been altered to a greater or lesser degree by natural and man-caused wildfire, fire rehabilitation efforts, vegetation management activities, livestock grazing, military training activities and recreational vehicle use.

In spite of anthropogenic impacts to its habitat the plant persists over significant portions of its range. Systematic monitoring of L. papilliferum habitat has been conducted for the last five years and does not indicate a substantial range wide downward trend. Population monitoring (number of individuals) on the Orchard Training Area has been conducted since 1991 and indicates annual fluctuations closely correlated with precipitation. Habitat monitoring at 16 sites on the OTA over the same period indicate a stable trend. Inventory of potential habitat within historic range is conducted annually and new occurrences of L. papilliferum are discovered each year. To date most inventory efforts have concentrated on federal public lands. There are significant acreages of potential habitat on private and state lands that have not been inventoried and could harbor populations of L. papilliferum. Given the natural annual fluctuations in abundance of L. papilliferum, the long term viability of the seed and the extent of the currently occupied habitat the state feels there is insufficient evidence to support the contention that range wide extinction is imminent.

Threats to Continued Persistence

There are substantial gaps in our knowledge of the species, particularly the effects of man's activities. No systematic studies have been conducted to determine the effects of livestock grazing or to determine the best management practices for grazing in occupied or potential habitat. The plant persists in areas that have been grazed for over 100 years. In other areas slickspots are present but are not occupied. It is unknown if grazing or some other anthropogenic effect or natural events like prolonged drought is responsible, or if these areas were ever occupied by L. papilliferum.

The historic abundance of the species within its range is unknown and impossible to determine. In most instances it is unknown if currently occupied habitat, regardless of its ecological condition, has fewer, the same or more plants than it did historically. Given the annual fluctuations in the number of plants observed in individual slick spots it is therefore very difficult to definitively assess population trend or the impact man's activities, particularly grazing, have on these trends.

There are some impacts that are reasonably well understood. It is generally agreed that fire has the most damaging ecological impact on L. papilliferum habitat. Fire promotes invasion by annual weeds into the surrounding landscape. Colonization of annual weeds on the margins of slickspots compromises their integrity and may result in the eventual loss of or reduction in the number and size of slickspots. Invasion by annual grasses and other weeds in the surrounding landscape increases the likelihood of repeated fire, thereby exacerbating the negative effects on slickspots. Fire prevention and suppression are key elements in conserving sagebrush steppe habitats and L. papilliferum.

The effects of fire rehabilitation activities on L. papilliferum habitat are mixed. There are two concerns associated with fire rehabilitation: 1) The physical damage to slickspots resulting from reseeding with mechanical equipment and 2) Reseeding with non-native species. There are examples of reseeding of the understory with mechanical equipment that have resulted in the destruction of slickspots and loss of L. papilliferum and there are examples where slickspots and L. papilliferum have persisted following reseeding. In at least one instance L. papilliferum persisted after two reseeding treatments. It is the state's belief that best management practices for reseeding could be developed to reduce impacts to slickspots and L. papilliferum.

One of the primary goals of fire rehabilitation efforts is to prevent the invasion of annual weeds, particularly grasses and thereby reduce the likelihood of repeated fires. The primary tool available to prevent or reduce invasion by annuals is reseeding the understory with perennial grasses. While there is general agreement that reestablishment of native plants in sagebrush steppe habitats is the ultimate goal, the availability of native understory plant materials in the quantities necessary for large scale

rehabilitation projects has made the attainment of this goal problematic. In the absence of native plant materials, particularly perennial grasses, non-native surrogates are used. While the use of non-native species is not ideal, it is far better than the alternative of uncontrolled invasion by non-native annual grasses and weeds. Use of non-native species should be viewed as an intermediate step in the rehabilitation of sagebrush steppe habitats to preserve the integrity of slickspots and L. papilliferum habitat until native species are reintroduced.

Summary

Based on a review of the proposed rule and the scientific literature the state offers the following conclusions and recommendations:

1. The status and circumstances do not indicate that L. papilliferum is in imminent danger of range wide extinction and therefore does not meet the criteria for listing as endangered.
2. Loss or degradation of habitat by fire is the greatest threat to the continued persistence of L. papilliferum but prevention and suppression can effectively address this threat. Land management agencies have significantly improved their fire management capabilities in the last two years.
3. Best management practices for fire rehabilitation and livestock grazing can be developed as a conservation tools for L. papilliferum and its habitat. Research and experiments needed to design best management practices will be more difficult and perhaps impossible if listed, particularly if listed as endangered.
4. There are substantial gaps in our knowledge of the habitat relationships and current distribution of L. papilliferum. It is not clear how listing will affect these activities, particularly on private lands where concerns of landowners may preclude access.
5. L. papilliferum is one of several sagebrush steppe obligate species affected by loss and degradation of habitat. The status of L. papilliferum is a symptom of a larger ecological problem that needs to be addressed. The Service needs to consider the broader implications to other species of listing L. papilliferum at this time.
6. The State agrees that delaying designation of critical habitat is prudent. In addition, the State maintains that insufficient information exists to designate critical habitat for the species at this time.

The State has included specific responses to the proposed rule below. The State's comments appear in **bold** and pertain to the language of the rule immediately preceding the numbered comment. Questions can be addressed to the Office of Species Conservation (208) 334-2189.

Background

Lepidium papilliferum is a herbaceous annual or biennial plant that occurs in sagebrush-steppe habitats at approximately 670 meters (m) (2,200 feet (ft)) to 1,645 m (5,400 ft) elevation in southwestern Idaho. This species is found along the Snake River Plain and Owyhee Plateau in Ada, Canyon, Gem, Elmore, Payette, and Owyhee Counties.

Of 88 known occurrences of Lepidium papilliferum, 70 are currently extant (exist), 13 are considered extirpated (extinct), and five are historic (i.e., plants have not been relocated; location information is based on collections made between 1911 and 1974) (Moseley 1994; Mancuso 2000; Shelly Cooke, Idaho Conservation Data Center (ICDC), pers. comm., 2002, ICDC 2002). Occurrences of L. papilliferum can include one to several occupied slickspots within an area determined to be suitable habitat. The total amount of habitat containing interspersed slickspots that have extant occurrences of L. papilliferum is about 5,000 hectares (ha) (12,356 acres (ac)). Only 6 of the 70 extant occurrences are considered to be high-quality habitat and contain large numbers of the plants (ICDC 2002). The number of L. papilliferum individuals at each extant occurrence ranges from 1 to 3,000 (Mancuso 2000; ICDC 2002).

- 1. The proposed rule states “the number of L. papilliferum individuals at each extant occurrence ranges from 1 to 3,000”. This is not true; some years, some occurrences have greater than 10,000 individuals. The 3,000 number is the high end of plants tallied along transects during five years of L. papilliferum monitoring conducted by the CDC. In nearly all cases, these transects sample only a portion of a given occurrence and most do not represent a total population count for an occurrence. The proposed rule states “occurrences of L. papilliferum can include one to several occupied slickspots”. Some occurrences have “many” (over 100), not just “several” occupied slickspots some years.**

This species is threatened by a variety of activities including urbanization, gravel mining, irrigated agriculture, habitat degradation due to cattle and sheep grazing, fire and fire rehabilitation activities, and continued invasion of habitat by non-native plant species (Moseley 1994; Mancuso and Moseley 1998). As a result of habitat loss and degradation, the documented extirpation rate of Lepidium papilliferum populations is the highest known of any Idaho rare plant species (Moseley 1994). The historical (undocumented) loss of L. papilliferum may have been even higher during the early 1900s (Mancuso *et al.* 1998) due to the widespread loss and degradation of sagebrush-steppe habitat in southwestern Idaho as a result of urbanization, livestock grazing, and irrigated agriculture (Moseley 1994).

- 2. The U.S. Fish and Wildlife Service (USFWS) states that the extirpation rate of L. papilliferum is the highest known of any Idaho rare plant species. We do not dispute that extirpation has occurred but it is doubtful an accurate rate of extirpation can be estimated. L. papilliferum has a seed bank that persist in the soil profile for at least 12 years (Meyers, 2002). An implication of this persistent seed bank is that as long as the habitat has not been destroyed, a population cannot be considered extirpated even though plants may be absent for one, two, or even five or more consecutive years. This makes it difficult to say with certainty a population is extirpated as long as suitable habitat persists at the site.**
- 3. The proposed rule states “the restricted distribution of L. papilliferum is likely a product of the scarcity of these extremely localized, specific soil conditions, and the loss and degradation of these habitat areas throughout southwestern**

Idaho". These products may affect current abundance, but not the original distribution of the species. L. papilliferum distribution probably correlates to the relatively restricted distribution of suitable habitat, including soil types and other environmental factors contributing to the formation of slick spot microhabitats.

4. Mancuso et al. (1998) is cited as the source for the statement "the historical (undocumented) loss of L. papilliferum may have been even higher during the early 1900s ...". The correct source for this statement is Moseley (1994).

Lepidium papilliferum was originally described as L. montanum var. papilliferum in 1900 by Louis Henderson. It was included as a distinct species in a recent review of taxa in the mustard family (Brassicaceae) (Rollins 1993). Rollins (1993) based his justification on physical features that L. papilliferum possesses and L. montanum does not, such as: (1) trichomes (hairlike structures) occurring on the filaments of stamens (part of flower that produces pollen), which is unique among all North American Lepidium species; (2) all the leaves on L. papilliferum are pinnately divided, whereas L. montanum has some leaves that are not divided; and (3) the shape of the silique (seed capsule) is different from that of L. montanum, and it has no wings, or even vestiges of wings, at its apex (end of the capsule), which also differs from that of L. montanum (Moseley 1994).

5. The proposed rule states in a paragraph discussing L. papilliferum taxonomy that "Rollins (1993) based his justification on physical features that L. papilliferum possess and L. montanum does not...". To be more accurate, the word "physical" should be replaced by "morphological".

Lepidium papilliferum is an annual or biennial plant that reaches 10 to 30 centimeters (cm) (4 to 12 inches (in)) in height. Leaves and stems are pubescent (covered with fine, soft hairs), and the divided leaves have linear segments (Moseley 1994). Numerous small, white, 4-petalled flowers terminate the branches. This species produces small, orbicular (spherical) fruits (siliques), which are approximately 3 millimeters (0.1 in) long. Lepidium papilliferum is mainly pollinated by bees (Apidae, Colletidae, and Halictidae families), flies (Syrphidae family), and some beetle species (Dermestidae and Cerambycidae families) (Robertson 2001). The primary seed dispersal mechanism is probably gravity, although wind and water may have a minor role (Moseley 1994). Lepidium papilliferum seeds may be viable in the soil for up to 12 years (Dana Quinney, *in litt.*, 2002).

Lepidium papilliferum occurs in semi-arid sagebrush-steppe habitats on the Snake River Plain, Owyhee Plateau, and adjacent foothills in southern Idaho. Associated native species include Artemisia tridentata ssp. wyomingensis (Wyoming big sagebrush), A. tridentata ssp. tridentata (basin big sagebrush), Agropyron spicatum (bluebunch wheatgrass), Stipa thurberiana (Thurber's needlegrass), Poa secunda (Sandberg's bluegrass), and Sitanion hystrix (bottlebrush squirreltail). Non-native species frequently associated with L. papilliferum include Bromus tectorum (cheatgrass), Sisymbrium altissimum (tumble mustard), Ranunculus testiculatus (bur buttercup), Lepidium perfoliatum (clasping pepperweed), and Agropyron cristatum (crested wheatgrass) (Moseley 1994; Mancuso and Moseley 1998).

Lepidium papilliferum is restricted to small areas, similar to vernal pools, known as slickspots (also called mini-playas or natric sites). Slickspots range from less than 1 square meter (m²) (10 square feet (ft²)) to about 10 m² (110 ft²) within communities dominated by other plants (Mancuso et al. 1998). Lepidium papilliferum is limited to slickspots covering a relatively small area. These sparsely vegetated microsites are very distinct from the surrounding shrubland vegetation, and are characterized by relatively high

concentrations of clay and salt (Fisher *et al.* 1996). The microsites also have reduced levels of organic matter and nutrients due to the lower biomass production compared to surrounding habitat areas. The restricted distribution of L. papilliferum is likely a product of the scarcity of these extremely localized, specific soil conditions, and the loss and degradation of these habitat areas throughout southwestern Idaho.

- 6. The proposed rule states “slickspots range from less than 1 square meter to about 10 square meters”. While true for most slickspots, there are slickspots (in the form of slickspot complexes) that range up to 100 square meters or even more.**

Like many short-lived plants growing in arid environments, the above-ground number of Lepidium papilliferum individuals at any one site can fluctuate widely from one year to the next depending on seasonal precipitation patterns (Mancuso and Moseley 1998; Mancuso 2001).

- 7. The citation for the above reference is incorrect: the correct citation is Moseley (1994).**

Flowering individuals represent only a portion of the population, with the seed bank contributing the remainder, and apparently the majority, in many years (Mancuso and Moseley 1998). For annual plants, maintaining a seed bank (a reserve of dormant seeds, generally found in the soil) is important for year-to-year and long-term survival (Baskin and Baskin 1978). A seed bank includes all of the seeds in a population and generally covers a larger area than the extent of observable plants seen in a given year (Given 1994). The number and location of standing plants (the observable plants) in a population varies annually due to a number of factors, including the amount and timing of rainfall, temperature, soil conditions, and the extent and nature of the seed bank. The extent of seed bank reserves is variable from population to population, and large fluctuations in the number of standing plants at a given site may occur from one year to the next. Depending on the vigor of the individual plant and the effectiveness of pollination, dozens, if not hundreds of seeds could be produced.

- 8. The proposed rule states “depending on the vigor of the individual plant and the effectiveness of pollination, dozens, if not hundreds of seeds could be produced”. Large plants can produce many thousands of seeds, not just “hundreds”.**

For example, in 1998, approximately 16,000 Lepidium papilliferum plants were counted along 45 transects situated within 40 occurrences monitored by Mancuso (2000). In 1999, only 3,060 L. papilliferum plants were counted along these same transects and two additional ones. Mancuso (2001) continued his monitoring of these transects in 2000, and tallied about 7,100 L. papilliferum plants. Much of the slickspot habitat for L. papilliferum occurs within a complex of the larger sagebrush-steppe habitat described above.

The displacement of native plants by nonnative species is a major problem in sagebrush-steppe habitats of the Intermountain region (Rosentreter 1994; Ann DeBolt, Bureau of Land Management (BLM), pers. comm., 1999). Widespread grazing by livestock in the late 1800s and early 1900s severely degraded sagebrush-steppe habitat, enabling introduced annual species (especially cheatgrass) to become dominant over large portions of the Snake River Plain (Yensen 1980; Moseley 1994). The invasion of cheatgrass has shortened the fire frequency of the sagebrush-steppe from between 60 to 110 years, to less than 5

years as it provides a continuous, highly flammable fuel through which a fire can easily spread (Whisenant 1990; Moseley 1994; Mancuso and Moseley 1998).

- 9. Whisenant (1990); Moseley (1994); Mancuso and Moseley (1998) are cited as the source for the statement “The invasion of cheatgrass has shortened the fire frequency of the sagebrush-steppe from between 60 to 110 years, to less than 5 years....”. The correct citation for this is Whisenant (1990). The other two reports listed simply cited the paper by Whisenant.**

The result has been the permanent conversion of vast areas of the former sagebrush-steppe ecosystem into nonnative annual grasslands. An estimated 2 to 2.43 million ha (5 to 6 million ac) of sagebrush-steppe in the western Snake River basin has been converted to nonnative annual vegetation dominated by cheatgrass and Taeniatherum caput-medusae (medusahead) (Noss *et al.* 1995), primarily due to continued overgrazing and fire. The continued cumulative effects of overgrazing and fire suppression permit the invasion of nonnative plant species into slickspot habitats (Rosentreter 1994). Lepidium papilliferum populations typically decline or are extirpated following the replacement of sagebrush-steppe habitat by nonnative annuals.

- 10. The discussion in Moseley (1994) of potential historic declines due to development and alteration of sagebrush-steppe habitat should be given more consideration in the context of current habitat conditions and population status. Range historians credit much of the habitat alteration seen today to the first few decades following European settlement. Yensen (1980) attributes over-grazing that occurred during the cattle boom of the 1880s and the sheep boom that followed for depletion of the regional shrub-steppe range and subsequent invasion of exotic annuals. Pechanec *et al.* (1937) made the statement “Continued high stocking levels, combined with the 14-year dry period which culminated in the severe drought of 1934, resulted in the virtual elimination of the native grass understory, a great reduction in the area dominated by winterfat, and the creation of dense monotypic stands of big sagebrush”. Given this history and the subsequent development of the Snake River Plains to irrigated agriculture and urban development, it is clear a significant loss of L. papilliferum habitat has occurred. However, in the last half of the 20th century there was a vast improvement in the knowledge of rangeland ecology and management that resulted in significant reductions of livestock numbers and improved management across the western United States, including the range of L. papilliferum. This is supported by reports from the Department of Interior documenting improved range conditions throughout the West.**

This habitat improvement or stabilization has created a situation where in some areas, particularly in unburned habitat, it is possible L. papilliferum populations have stabilized under current rangeland management practices. This assertion is supported by the persistence of L. papilliferum and its slickspot habitat in places where livestock grazing continues to this day.

A September 2002 field tour to the Hammett area provided evidence of L. papilliferum persisting in an area where historic land management activities depleted the native herbaceous understory. This grazing allotment has been

heavily impacted for more than a century and a half. The Oregon Trail, a power line, and a buried gas pipeline transect the population, which is also grazed annually during the spring and fall. The BLM state botanist identified 6-8 different species of lichens, mosses, and algae that dominated interspaces between the sagebrush plants. L. papilliferum was present in large numbers and had produced a seed crop despite a less than perfect growing season. When asked, the botanist commented that current management was perfectly compatible with maintaining an excellent biological crust and excellent L. papilliferum habitat. This is one case where a site is in satisfactory ecological condition and maintaining very good L. papilliferum habitat despite historic and current impacts. In addition, this example refutes the argument that spring grazing is universally incompatible with healthy biotic crusts or L. papilliferum habitat.

Another problem has been the use of nonnative perennial species, such as Agropyron cristatum and A. intermedium (intermediate wheatgrass), to restore or rehabilitate shrub-steppe habitat after a fire event. Although some Lepidium papilliferum may temporarily persist in spite of these restoration seedings, most occurrences support small numbers of plants (fewer than five per slickspot) and long-term persistence data are unavailable (Mancuso and Moseley 1998). Habitat degradation, fragmentation, and loss of sagebrush-steppe vegetation have occurred throughout the range of L. papilliferum. Popovich (2001) found in his surveys for L. papilliferum in the Inside Desert area on BLM land in 2000 that, generally, slickspots dominated by nonnative vegetation had fewer L. papilliferum plants than slickspot sites with greater native vegetation retention.

11. In the above paragraph, the statement “Although some Lepidium papilliferum may temporarily persist in spite of these restoration seedings ...” implies that all restoration/rehabilitation efforts result in the loss of L. papilliferum habitat. Though there are examples of where drilling has resulted in the deterioration of slickspot habitat, most introduced species have had limited success in establishing in slickspots. A number of rehabilitation/restoration techniques are available to limit impacts to slickspots and are discussed in Scholten (2000). To make sweeping statements that range rehabilitation using non-natives is universally detrimental to L. papilliferum habitat is a gross over simplification and incomplete review of the situation.

Additionally, it is also the opinion of several knowledgeable botanists and ecologists that using introduced species of grasses and forbs is likely to be the most successful means of interrupting the spread of exotic annuals (Pellant, 2000, Rosentreter, per. Comm., 2002). See paragraphs # 31 & 32 for more discussion.

12. In the context of sagebrush restoration efforts, the proposed rule states “although some L. papilliferum may temporarily persist in spite of restoration seedings, most occurrences support small numbers of plants (fewer than five per slickspot)...”. “Occurrences” should be replaced by “slickspots”. In addition, what is the citation for the fewer than five per slickspot statement?

In 1997, an effort was initiated by the ICDC to develop an ecological integrity index for assessing and monitoring Lepidium papilliferum habitat in southwestern Idaho (Mancuso and Moseley 1998). This monitoring includes the following components: (1) an Integrity Condition Rating to assess the overall habitat condition, which includes those attributes associated with the slickspot microsite and the shrub-steppe habitat. Integrity Condition Ratings are ranked as “good”, “fair”, or “poor”; and (2) an Occurrence Viability Rank which provides a scale to assess the prospects that an occurrence will persist over time, and includes factors affecting the viability and defensibility of the occurrence (Mancuso 2001). The four Occurrence Viability Rankings are: (1) A-ranked occurrences are those sites found in the highest quality communities; these occurrences generally have not been burned and are not dominated by nonnative annuals; (2) B-ranked occurrences typically consist of good to high quality habitat; (3) C-ranked occurrences are generally in fair to low-quality habitat; some of these occurrences are highly disturbed and are not expected to remain viable; and (4) D-ranked occurrences are in degraded habitats; these occurrences are not expected to remain viable (Moseley 1994).

- 13. The proposed rule states, “in 1997, an effort was initiated by the IDCDC to develop an ecological integrity index for assessing and monitoring L. papilliferum habitat in southwestern Idaho”. It would be more accurate to state, “in 1997, a collaborative effort was initiated to develop a protocol for assessing and monitoring L. papilliferum habitat in southwestern Idaho”.**

Currently, only 6 (9 percent) of the 70 extant Lepidium papilliferum occurrences are A-ranked; 9 (13 percent) are B-ranked; 2 (3 percent) are B/C-ranked; 20 (29 percent) are C-ranked; 1 (1 percent) is C/D-ranked; and 17 (24 percent) are D-ranked (ICDC 2002). Fifteen occurrences are not ranked (21 percent) due to a lack of information on habitat characteristics (S. Cooke, pers. comm., 2002).

- 14. The proposed rule misinterprets the ecological integrity index monitoring protocol. To clarify – the Habitat Integrity Index monitoring protocol consists of four interrelated parts: (1) sampling along a transect to acquire specific slickspot microsite and adjacent habitat information, (2) vegetation plot sampling, (3) photo points, and (4) an Occurrence Viability scorecard. USFWS incorrectly lists the “Integrity Condition Rating” and “Occurrence Viability Rank” as the components of the monitoring protocol. These two scores are simply means to help interpret the monitoring information on a relative scale. They are not the monitoring system. Furthermore, the A-D definitions listed by USFWS as Occurrence Viability Rankings are actually the CDC Element Occurrence rank definitions. Although there are parallels between the two ranking systems, they are not equal.**
- 15. One of the keys to the HII monitoring protocol is the assumption that high quality (late seral) sagebrush-steppe habitat is the best habitat for L. papilliferum, and the protocol and interpretation are largely based on this assumption. The protocol contains questions to be answered by the observer to ascertain scores for each “attribute”. This protocol is insufficient to answer some of the key questions concerning L. papilliferum conservation. By itself, it is inadequate to address cause and effect type questions, including those related to livestock impacts. The HII monitoring program was not designed to provide information needed to focus on cause and effect relationships. Because cause and effect was not the intention of those who developed the HII protocol, it is erroneous for the Proposed Rule to imply it does. Modifications**

and/or additions to the existing monitoring protocol are needed to provide the comprehensive, long-term information land managers need for L. papilliferum and its habitat.

16. This “qualitative” approach for making determinations on rangelands is not new: the Proper Functioning Condition (PFC) process used by both the Forest Service and the BLM for determining riparian health and functioning is in many ways similar to the L. papilliferum HII. The difference is that the PFC analysis depends on use of a team of specialists with training and experience in hydrology, vegetation management, and wildlife and livestock management. Likewise, the Rangeland Health Assessment process employed by BLM depends on well-trained and experienced specialists with a broad array of skills and expertise. Both these processes have gone through rigorous evaluation and field-testing, and all determinations can be substantiated with physical measurements: determining cause and effect based on observation alone is difficult at best and requires journeyman-level skills and experience.

Previous Federal Action

Federal Government actions for the plant began in 1990 when this species (as Lepidium montanum var. papilliferum) was designated as a category 2 candidate in the February 21, 1990 (55 FR 6184) Notice of Review. Category 2 candidates were those for which information in our possession indicated that proposing to list as endangered or threatened was possibly appropriate, but sufficient data to support proposed rules were not currently available. This taxon was retained as a category 2 candidate in the September 30, 1993 (58 FR 51144) Notice of Review. Upon publication of the February 28, 1996 Notice of Review (61 FR 7596), we ceased using candidate category designations. Lepidium papilliferum was not included as a candidate species in this notice. We reinstated the species as a candidate species, with a listing priority number of 2, in the October 25, 1999, Notice of Review (64 FR 57534). The species was again listed as a candidate in the October 30, 2001, Notice of Review (66 FR 54808).

On April 9, 2001, we received a petition dated April 4, 2001, from the Committee for Idaho’s High Desert, the Western Watersheds Project, the Wilderness Society, and the Idaho Conservation League (Petitioners) asking us to list Lepidium papilliferum as threatened or endangered, and on an emergency basis. The petition submitted information stating that this species is threatened by competition with nonnative and woody vegetation, improper livestock grazing practices, improper herbicide application, inbreeding depression, and fire suppression. We responded to the Petitioners with a letter dated April 27, 2001, stating that the species was already identified as a candidate, and we do not publish petition findings on candidate species since we have already determined that their listing is warranted (Service 2001). We also stated that our initial review of their petition did not indicate an emergency situation existed.

On November 6, 2001, the Petitioners filed a complaint for our failure to emergency list Lepidium papilliferum as threatened or endangered, and our failure to proceed with a proposed rule to list L. papilliferum as endangered or threatened on a non-emergency basis (Committee for Idaho’s High Desert and Western Watersheds Project v. Anne Badgley, et al. (Case No. CV 01-1641-AS)). On April 2, 2002, based on a settlement agreement between us and the Petitioners, the court signed an order requiring us to submit for publication in the Federal Register a proposal to list the species by July 15, 2002. This proposed rule complies with the settlement agreement.

Summary of Factors Affecting the Species

Section 4 of the Act and regulations (50 CFR part 424) promulgated to implement the listing provisions of the Act set forth the procedures for adding species to the Federal lists. A species may be determined to be an endangered or threatened species due to one or more of the five factors described in section 4(a)(1). These factors, and their application to Lepidium papilliferum, are as follows:

A. The present or threatened destruction, modification, or curtailment of its habitat or range.

Most sagebrush-steppe habitat that has not been converted to cropland in southwestern Idaho has been degraded by wildfire, livestock grazing and trampling, the invasion of nonnative plant species, and off-road vehicle use; these factors continue to threaten all remaining habitat for Lepidium papilliferum (Moseley 1994; Mancuso and Moseley 1998; ICDC 1999; Mancuso 2000). The conversion of the original sagebrush-steppe to annual grasslands has reduced suitable remaining habitat for, and destroyed some, L. papilliferum, in addition to fragmenting and isolating extant occurrences (Moseley 1994). Subsequent increased frequency of fire, and the associated invasion of weedy annual plants, are serious range-wide threats to the long-term integrity of L. papilliferum habitat and population viability (M. Mancuso, *in litt.*, 1998).

To illustrate the pattern of ongoing habitat degradation for this species, in 1994, 12 Lepidium papilliferum occurrences were given a “B” rank (Moseley 1994). By 1998, eight of these occurrences (67 percent) had declined in quality to either a “C” or “D” rank due to the effects of habitat degradation and fragmentation (M. Mancuso, *in litt.*, 1998). Lower quality (i.e., C- and D-ranked) occurrences are not likely to persist in the future. Examples of decline in habitat quality include two L. papilliferum occurrences near Kuna Butte on BLM lands. Lepidium papilliferum habitat at one site south of Kuna (Initial Point) that received an A-rank in 1994 had declined to a D-rank by 1998. Recent wildfires in the area destroyed the original sagebrush vegetation which has now been largely replaced by nonnative species. Mechanical fire rehabilitation efforts also adversely affected the slickspots; less than 0.04 ha (0.1 ac) of occupied habitat now exists at this site (M. Mancuso, *in litt.*, 1998; ICDC 1999). Another L. papilliferum occurrence south of Kuna (Kuna Butte) declined from an A-rank in 1994 to a C-ranking in 1998 due to habitat degradation from fire, post-fire rehabilitation efforts, and the invasion of nonnative species which now dominate the vegetation; occupied L. papilliferum habitat at this occurrence is also restricted to less than 0.04 ha (0.1 ac) (ICDC 1999). Both occurrences are now considered to have poor habitat quality.

17. The above statement “lower quality (i.e., C- and D- ranked) occurrences are not likely to persist in the future”: should be “less” likely to persist.

18. In discussing the loss of habitat due to mechanical fire rehabilitation efforts, the proposed rule uses examples from Initial Point and Kuna Butte and states that “less than 0.04 ha (0.1 acre) of occupied habitat now exists at this site”. This is misleading. The acreage applies only to the area where the monitoring transects are located, not the entire occurrences.

Livestock effects on unique habitats such as slickspots are magnified in areas where nonnative plant invasions and altered fire regimes occur. Arid soils with inorganic crusting are more susceptible to impacts when soils are wet (Belnap *et al.* 1999). Slickspots are characterized by a near-surface distribution of soluble sodium salts, thin vesicular (small cavity) surface crusts, and shallow well-developed argillic (relating to clay mineral) horizons (Fisher *et al.* 1996). Slickspots often contain some surface water in the winter, spring, and after thundershowers (Fisher *et al.* 1996; James Klott, BLM, pers.

comm., 2000). Water that is present for more than a day often will attract livestock to slickspots (J. Klott, pers. comm., 2000).

- 19. The discussion of livestock effects on “inorganic” crusting is unclear and confusing. Is this a reference to non-biotic crusting that commonly forms from rain on unprotected soil surfaces, or the vesicular soil crust found on slickspots? If the discussion is in reference to the non-biotic crusting then the manner in which Belnap et al., 1999, was referenced is out of context. Belnap et al. speak of inorganic crusting and its effect on infiltration rates, not the vesicular crusts typical on slickspots. In relation to inorganic crusting, the authors actually mentioned using livestock trampling as a short-term fix to the physical crust. Mechanical manipulation has long been recognized as a method to breakup crusts that have formed on agricultural fields.**

Further discussion in Belnap et al. is exclusively related to biotic crust and contradicts the statement that impacts during wet periods are the most detrimental to these crusts. Research indicates that winter and spring are when trampling by livestock, or vehicles, has the least impact on biotic crusts. During this period crusts are moist and more resistant to impacts and resilient to recovering compared to when dry and brittle (Belnap et al., 1999; Marble and Harper, 1989; and Memmott, et al. 1998).

Livestock trampling of slickspots is one of the main disturbances to slickspot microsites (Mancuso 2001), especially in the spring (approximately April through June) when the soils are moist. Trampling by livestock can physically damage the vegetation that exists there and compact the soil, which greatly accelerates desertification processes (becoming more like a desert) through increased soil loss and water runoff (Moseley 1994; D. Quinney and Jay Weaver, Idaho Army National Guard (IDARNG), pers. comm., 1998; J. Klott, pers. comm., 2000; Popovich 2001). This can also lead to the loss of slickspot integrity, particularly from winter through spring when standing water remains for a longer period of time after a rainfall (Belnap et al. 1999; BLM et al. in litt., 1999; Air Force 2000). A majority (78 percent) of Lepidium papilliferum occurrences had evidence of livestock trampling and grazing in a study conducted by Mancuso (2000) that monitored 40 extant sites.

- 20. Livestock trampling of slickspots does not lead to “desertification”.
Desertification is a large scale, complex process that occurs over time. It results in changes to the vegetation and other biotic characteristics. To implicate livestock trampling of slickspots with desertification makes no sense.**
- 21. The mere presence of livestock activity does not necessarily create negative impacts. Data in the report “Lepidium papilliferum, Data Report, Idaho Army National Guard, 2/2000”, indicates no negative impacts regarding long-term trend of habitats studied between 1991 and 1998. Despite the reports of “severe grazing” (not defined in report) the parameters “Cryptogam Cover”, “Native Plant Ground Cover”, “Native Plant Canopy Cover”, “Native Grass Canopy”, and “Native Grass Ground Cover” exhibited static or upward long-term (1991-1998) trends.**

- 22. Another example - data gathered on “Livestock Footprints” in slickspots was highly variable between years. Despite the reports of “severe grazing” (not defined in report) the 8 year average of “Livestock Footprints” in slickspots was 2.9% in the Orchard Corner study site, and 0.79 on the Red Tie site. Six of the 8 years reported 0 or less than 1% impact. Additionally, standard deviation of the data collected on the “Livestock Footprints” was half, and sometimes equal to the measured impact. This indicates either the sample size was insufficient, or more likely, the level of impact on slickspots was such that sampling a large enough area to get a statistically viable sample was impractical. Either way it is clear that - trampling is not having a significantly negative impact in this case.**

Livestock trampling of slickspots can also lead to the invasion or increase of nonnative annual species such as Bromus tectorum, Sisymbrium altissimum, Ranunculus testiculatus, and Lepidium perfoliatum into shrub-steppe habitats through transport of the seeds of these species by animals in their feces or hides (Ellison 1960; Pyke 1999). The majority of the 40 extant Lepidium papilliferum occurrences being monitored (92 percent of the 40) had invasive annual grasses that either dominated or co-dominated the herbaceous vegetation (Mancuso 2000).

Slickspots are small areas of habitat that are relatively free of organic debris and nutrients. The presence of livestock in an area with slickspots generally results in increases in organic debris, such as livestock feces, especially when the slickspots have standing water. As organic debris is increased, the incidence of nonnative species invasion also increases (J. Klott, pers. comm., 2000), leading to the loss of suitable habitat for Lepidium papilliferum. Heavily grazed and trampled locations may favor species such as bur buttercup (Pyke 1999). Once the integrity of the slickspot has been disrupted, invasion by nonnative species will be enhanced (J. Klott, pers. comm., 2000). Invader species (such as those indicated above) can also encroach onto a site from adjacent sites in later stages of deterioration (in fair to poor range conditions) (Holechek et al. 1998).

As a result of numerous fires and reseeding efforts associated with fire rehabilitation with non-native perennial grasses, the BLM has granted Temporary Non-Renewable (TNR) livestock grazing permits to permittees in the Jarbidge Resource Area. A TNR is a permit that increases a livestock permittee’s allotted Animal Unit Months (AUMs) in a permitted grazing area, based on the estimated amount of forage available for livestock. An increase in livestock grazing pressure increases the likelihood of trampling of Lepidium papilliferum plants, soil compaction, and the introduction of nonnative vegetation in slickspots. Until 1995, TNR permits were granted on a yearly basis without environmental review or surveys for sensitive plant species. In 1996, the BLM prepared an environmental assessment analyzing the potential impacts of authorizing TNR permits, and provided a framework for managing the TNR program (Martha Hahn, BLM, in litt., 2000). Beginning in 1999, a TNR permit was denied if L. papilliferum was observed in the allotment for that year; if L. papilliferum was not observed, the TNR permit was granted (John Biar, BLM, pers. comm., 2000; J. Klott, pers. comm., 2000). However, since 2000, while some BLM pastures may be closed to grazing use if L. papilliferum is present, this does not necessarily always occur (J. Klott, pers. comm., 2000), and the decision to allow grazing is based mainly on how close slickspots containing L. papilliferum are to water sources.

- 23. Guidelines for determining forage allocation and impacts of livestock on slickspots were discussed with the BLMs Jarbidge Resource Area (JRA) wildlife biologist and referenced numerous times. One range management specialist from another Field Office was referenced, but no reference is made**

to communication with the rangeland management specialists or botanists from the JRA. While it is appropriate to consider information or observations about *wildlife* from the wildlife biologist, it is likewise appropriate and necessary that issues and information related to *rangeland ecology and grazing management* be solicited from the BLMs JRA Rangeland Management Specialist. This was not done.

24. The JRA has always followed current BLM protocol and guidance in issuing Temporary Non-Renewable (TNR) decisions. Prior to 1996, BLM guidance did not require a NEPA analysis and a grazing decision to issue TNR. The Proposed Rule imply that TNR permits were issued without any regard for policy and regulation. This is incorrect and the record should be corrected to accurately reflect the fact that all TNR decisions were issued in accordance with BLM policy. The JRA has collected volumes of production, utilization and actual use data well before the proposed listing of L. papilliferum. All this information is used to issue annual TNR authorizations. Furthermore, a significant amount of data regarding L. papilliferum has been gathered since 1996. The most current L. papilliferum data are considered in the issuance of every TNR decision. Sentence 7, page 14 is in error and has been misunderstood or misrepresented in the personal communication with J. Biar or J. Klott. TNR is not denied (as stated) in an entire allotment if L. papilliferum is observed in some pastures. Although TNR has been occasionally denied in those pastures where L. papilliferum is present, TNR has been authorized if the potential impacts to slickspots can be mitigated by season of grazing use changes, salt or water relocation, and/or by more intensive herding practices.
25. In those instances when TNR has been denied, it is because the BLM and the grazing permittee were unable to mitigate the adverse impacts. Utilization of the current years growth on pastures where TNR is annually allocated rarely exceeds 50% with grazing utilization in many pastures 30% or less. This is considerably less than the maximum 60% utilization of crested wheatgrass seedings allowed by the JRA Resource Management Plan. Though the plan does not specifically address L. papilliferum, the JRA has made significant changes to guidelines used to determine appropriate levels of TNR allocation (M. Courtney, per. comm., 2002)

The BLM has taken some steps to mitigate grazing impacts to Lepidium papilliferum on land it manages. It has moved a few water troughs that attracted livestock into an area that contained L. papilliferum, and also fenced an area containing the species to protect it from the livestock. Also, the BLM has changed the season of grazing use from spring to fall, although this does not generally protect the biennial form of L. papilliferum. Large areas that have not been surveyed are still grazed, and many areas at less than 1,524 m (5,000 ft) in elevation are permitted to be grazed the entire year. Although surveys are conducted yearly, funds are insufficient for the BLM to cover all of the grazing allotments throughout the species' range (J. Klott, pers. comm., 2002).

In 1998, the Air Force acquired BLM land to establish the Juniper Butte Enhanced Training Range (ETR), under the Juniper Butte Range Withdrawal Act (PL 105-261), which provided for the withdrawal and management of this area by the Air Force for military activities (Air Force 2000). Juniper Butte ETR is approximately 4,856 ha (12,000 ac) in size, and the landscape is a mosaic of shrub-steppe and

nonnative plant communities. Numerous fires in this area resulted in a conversion from the native sagebrush-perennial grassland vegetation to nonnative perennial or annual grasslands (Air Force 2000). Slickspot habitat and Lepidium papilliferum are distributed throughout the entire Juniper Butte ETR area. A total of 597 slickspots or complexes of varying sizes were located in a 1998 Air Force survey on the Juniper Butte ETR, and totaled approximately 0.9 ha (2.2 ac) of potential L. papilliferum habitat. This figure did not include the 121 ha (300 ac) primary ordnance (bomb) impact zone. Slickspot habitat on the Juniper Butte ETR is currently considered low ranking (C-rank) (Mancuso 2002).

26. The above statement; “slickspot habitat on the Juniper Butte ETR is currently considered low ranking (C-rank)” applies to the Occurrence Viability which takes into account factors such as fire history; fire rehabilitation efforts, weed invasion, habitat fragmentation, land ownership, management, etc., not simply the habitat.

Under BLM management, this land was permitted to be grazed by livestock for many years as part of the Juniper Draw allotment (Air Force 2000). At the present time, the Juniper Butte ETR area continues to be grazed by a BLM permittee (Angelia Martin, Air Force, pers. comm., 2002). The Air Force has recently completed its Integrated Natural Resource Management Plan (INRMP) for the Juniper Butte ETR, which was prepared to provide mitigation and monitoring for lands affected by military activities, and to provide management guidance for this area (Air Force 2000).

Under the INRMP, the Air Force proposes to utilize grazing throughout the entire Juniper Butte ETR to reduce the amount of standing grass biomass for wildfire control (Air Force 2000). Currently, the permittee is required to graze his permitted 1,806 AUMs for 60 days (2 months) sometime between April 1 and June 30 (during a 90-day window) each year. In the early spring, Air Force staff begin to check a number of slickspots, and if there is standing water in them, grazing may be delayed until after April 1 with the potential of having grazing delayed until May 1. However, at that time, whether the slickspots are wet or not, the cattle must be turned out to graze the 60 days until the end of June. Outside of the primary ordnance impact area, the Juniper Butte ETR is divided into three pastures. During the spring, the Air Force (2000) proposes to suspend training in the primary ordnance impact area in order to clean up inert training ordnance dropped from jets during training exercises in this impact zone and one of the pastures. It is anticipated that a small amount of ordnance will be dropped outside the primary ordnance impact area, but we consider this impact on Lepidium papilliferum to be minor. Livestock will be allowed to graze during this time. Soil and vegetation disturbance due to this activity would be greatest at this time of year, and would likely damage L. papilliferum and its habitat throughout the Juniper Butte ETR, especially at the INRMP proposed grazing intensity level, which is to graze 2,470 AUMs for 60 days (Air Force 2000). The Air Force is currently preparing a Vegetation Management Environmental Assessment (EA) that would address how the area is grazed by livestock and the necessary conservation measures needed for L. papilliferum. It is anticipated that the INRMP will be updated with information from the final EA.

27. The discussion of livestock grazing on the Juniper Butte ETR (JBETR) implies that the grazing plan is simply a 60-day grazing period whereby 2,470 AUMs can be harvested anytime during the 90-day period of April 1 to June 30. This is a gross misrepresentation of the plan. The JBETR is divided into a 3-pasture, deferred grazing system where yearlings are grazed during a 60-day period, rotating pastures every twenty days. This is significant in that the shortened rotation period reduces the opportunity for plants to be grazed repeatedly during the growing season, as well as reducing the likelihood of

significant trampling near slickspots. The grazing utilization in 2002 was only 30 % of the current years growth, well below the allowable utilization level of 60% identified in the INRMP (Air Force, 2002). Additionally, the Proposed Rules make no mention of the difference in class of livestock: “Yearlings” or year-old stock, instead of cow-calf pairs, are grazed on the JBETR. Yearlings are more mobile than mature cows with calves at their sides and are less likely to “loaf” or rest near water, or mineral supplement and salt sources. Yearling animals are capable of traveling greater distances to foraging areas. The ability of yearling stock to utilize a wider foraging area significantly improves distribution of the animals and lessens impacts of grazing activities.

28. There have been no quantitative studies that allow USFWS to make the assertion that impacts by livestock grazing during the planned grazing period will likely damage L. papilliferum and its habitat. In a May 29, 2002 letter signed by Robert Ruesink, FWS Supervisor of the Snake River Basin Office, to Brigadier General Irving L Halter Jr., commander of the 366th Wing at Mountain Home Air Force Base, the FWS admits (last paragraph Page 2) that: “ The Service acknowledges that the effects on the species from livestock grazing and other vegetation management techniques have not been well studied.”

Wildfire is a threat to all known Lepidium papilliferum occurrences throughout its range. Frequent fires are likely to degrade remaining L. papilliferum habitat in the future. For example, 29 of the 40 monitored (73 percent) L. papilliferum occurrences have been completely burned, have a mosaic burn pattern, or have distinct burned and unburned segments (Mancuso 2000). Increased sedimentation after a fire may also allow weedy species to invade slickspots (DeBoldt 1999 cited in Air Force 2000).

Post-fire range restoration efforts also threaten Lepidium papilliferum. Some occupied slickspots have been lost following drill-seedings, but it is often not clear whether fire, seeding, or the combination of the two disturbances caused the disappearance of the species or the slickspot. Drill seeding is the process of seeding an area using a rangeland drill which plants and covers seed simultaneously in furrows. It is designed to give the seeds moisture and temperature advantages that will enhance their competitive fitness, and consequently, their success rate (Scholten and Bunting 2001). Slickspots may reform over time after being drilled (Moseley 1994; Noe 1999 cited in Air Force 2000), but it is not known if L. papilliferum populations will remain viable for as long as the slickspot takes to reform (Air Force 2000). In their study examining the effects of drill seeding on L. papilliferum, Scholten and Bunting (2001) found that the density of L. papilliferum individuals was lower on drilled slickspots than on non-drilled sites. Fire rehabilitation is needed to reduce the invasion of nonnative vegetation to burned areas. Drill-seeding may have less severe impacts on slickspot habitat than disking the soil, but the success of fire rehabilitation efforts at maintaining slickspots and Lepidium papilliferum varies considerably. Drill-seeding tends to break the linkages between slickspots and can result in slickspots shrinking in size, particularly those that are relatively small (J. Klott, pers. comm., 2000). Seeding methods that cause minimal soil disturbance (e.g., “no till” drills) are available, but have not been regularly used in southwestern Idaho to date (R. Rosentreter, BLM, pers. comm., 1999). In some cases, not seeding burned areas can result in the loss of L. papilliferum occurrences due to nonnative weed invasion. In 2001, the BLM modified its rangeland drills used in fire rehabilitation to reduce the seeding depths so the drills would be less damaging to L. papilliferum habitat.

Seeding burned areas with Agropyron cristatum, a non-native forage species, or other non-native perennial grasses, has resulted in the destruction of at least one Lepidium papilliferum site (Moseley

1994). Agropyron cristatum is a strong competitor and its seedlings are better than native species at acquiring moisture at low temperatures (Lesica and DeLuca 1998). For example, on the Juniper Butte ETR, approximately 80 percent or 3,708 ha (9,163 ac) of this area is dominated by nonnative perennial plant communities as a result of fire rehabilitation efforts (Air Force 1998).

29. Aside from the complete conversion of sagebrush-steppe to agricultural use or urban development, we contend the primary threat to the integrity of L. papilliferum habitat, is wildfire and the subsequent invasion of annual grasses into the sagebrush-steppe ecosystem. Over the past century, cheatgrass (*Bromus tectorum*) and medusahead wildrye (*Taeniatherum asperum*) have become well established. These weeds were estimated to occupy nearly 3 million acres of rangeland in southern Idaho in 1994. It is assumed they occupy a much greater area today. The establishment of these exotic annuals has altered the historic fire frequency from 50-100 years to a much more frequent time interval through a successional process whereby perennial species are replaced by these invasive and extremely flammable annuals. Prolific seed production and the ability to germinate en masse through the winter following fires gives cheatgrass and other annuals a competitive advantage over native perennial species which are often slow to recover and/or to reproduce following wildfire. Repetitive fires in cheatgrass infested or dominated plant communities consumes aboveground plant material (cover) and exposes the soil surface to wind and rill erosion that is both more frequent and voluminous than historic rates. Soil chemistry and other edaphic changes may occur as wind-blown soil and ash are deposited into the slickspots, and promoting the invasion of annuals such as cheatgrass and burr buttercup. Associated with changes in fire frequency, the historic scale and pattern of wildfires has also been altered in ways detrimental to the sagebrush-steppe ecosystem. Prior to cheatgrass, longer intervals between fires and smaller, more patchy burns patterns presumably gave slickspots and L. papilliferum sufficient time to recover and persist at a site. Frequent fires facilitated by cheatgrass and other weedy annuals may preclude the ability of L. papilliferum habitat to persist or reform. L. papilliferum habitat may be lost unless and until the site can be stabilized through reintroduction of perennial vegetation species, and the fire frequency lengthened to near historic intervals.

30. Wildfire is briefly discussed as a threat, but insufficient recognition is given to the negative effects on L. papilliferum and its habitat resulting from this disturbance. Instead, the Proposed Rule focuses primarily on the negative impacts of fire rehabilitation. On the contrary, rehabilitation, including the seeding of perennial grasses into these highly altered, cheatgrass-dominated plant communities is one of the only known, effective ways to protect and rehabilitate existing and potential L. papilliferum habitat. Rehabilitation efforts are important for L. papilliferum and other sagebrush obligates such as sage grouse. The replacement of perennial species of the sagebrush steppe by invasive annuals is a crisis of major proportions. If this transformation continues unchecked, no amount of effort will be sufficient to conserve L. papilliferum, sage grouse, or other sagebrush obligates. Rangeland rehabilitation programs, in conjunction with aggressive fire protection/

prevention programs for intact habitat, offer the only practical and economical way to break this cycle.

31. In many cases rehabilitation efforts will require the use of non-native species in lieu of less dependable and available native species. The Proposed Rule implies that selection of native versus introduced species such as crested wheatgrass is simply a matter of choice. This is not so. Successful reestablishment of native species into areas burned by wildfire in the range of L. papilliferum has been slow and erratic at best: most have failed. On the other hand, species such as crested wheatgrass and Russian wildrye are among the few perennial grass species that can be planted and consistently establish to provide competition with cheatgrass. These forage grasses have a history of successful establishment ultimately reducing and diminishing the impacts of cheatgrass and its attendant accelerated fire frequency. Using these species in a 2 or 3 step process to establish native perennials may be the only option available (R. Rosentreter, BLM, pers. Comm., 2002).
32. The listing of L. papilliferum as endangered and the associated restrictions on site preparation and seeding equipment has the potential to negatively affect vegetation restoration and rehabilitation efforts. The consultation process is cumbersome and results in significant reductions in “on the ground” work. Though the “Streamlining Process” may have improved consultation to some degree, the number of meetings and the amount of paperwork appears to have increased. Numerous examples exist throughout the State where the process continues to fail in providing timely and expedient on-the-ground management changes. The proposed rule states that rehabilitation efforts, drilling in particular, damages slickspots to the degree they may never recover in time to support L. papilliferum. Yet there are a number of examples throughout the range of L. papilliferum to the contrary. Many wildfire rehabilitation projects and crested wheatgrass seedings on the Inside Desert support L. papilliferum even though they were both burned and re-seeded one or more times. Reseeding actions can apparently be severe enough to permanently destroy slickspots. However, there are mitigation efforts that can be taken to reduce the risk of irretrievable alteration of slickspots: the use of depth bands on the drills, avoidance, and care by equipment operators are some of these measures.

Other potential threats to this species resulting from fire prevention and rehabilitation measures include the use of Oust, a non-specific herbicide that is toxic to plants in the mustard family. Oust is a sulfometuron methyl herbicide and is successful at killing annual plants while having little impact on established perennials (Scholten 2000 cited in Scholten and Bunting 2001). It has been used over large areas of BLM lands that contain Lepidium papilliferum habitat. Also, the practice of “green-stripping” or converting native habitat to nonnative plant species that are not considered to be very flammable has occurred (Moseley 1994). Since wildfire prevention and control is a high priority for the BLM and other agencies in southwestern Idaho, potential threats to L. papilliferum habitat associated with these activities are expected to continue.

The long-term viability of Lepidium papilliferum occurrences on private land is questionable due to the continuing expansion of residential developments in and around Boise (Moseley 1994). Twenty-eight of

the 88 known L. papilliferum occurrences (32 percent) occur either wholly or partially on private lands. Of these, 13 occurrences (46 percent) are known to have been extirpated within the past 50 years (Moseley 1994; ICDC 2002). Urbanization, agricultural conversion, and associated factors such as increased risk of damage or extirpation from fire, trampling, and off-road vehicle use, threaten all existing L. papilliferum occurrences on private land.

Development of adjacent private land also threatens at least four Lepidium papilliferum occurrences on BLM land (Mancuso 2000). For example, the Soles Rest Creek L. papilliferum occurrence is on BLM land adjacent to private property that is under construction for a residential development (A. DeBolt, pers. comm., 2002). An all-season road has replaced a two-track road and spur roads now lead off the improved road. Due to this increased access, and the resulting potential for an increase in off-road vehicle use that would trample plants, fire hazard, and introduction of nonnative species, this L. papilliferum occurrence declined from an A-rank to a B-rank.

In this same general area, a recent trespass occurred in which a private landowner bladed a 2.4 kilometer (km) (1.5 mile (mi)) road through BLM land to reach his private inholding. This individual bladed the road through slickspot habitat and a Lepidium papilliferum population. The BLM is now in the process of developing an environmental assessment to rehabilitate the land damaged during this incident and route a road away from slickspot habitat and L. papilliferum plants to accommodate this landowner as well as others (A. DeBolt, pers. comm., 2002).

In another recent event, unauthorized blading of an existing roadway on BLM lands impacted at least six slickspots known to contain Lepidium papilliferum. The total number of slickspots impacted by the 84 km (52 mi) of blading is unknown as the blading may have removed all physical evidence of small slickspots (BLM 2001).

A recent assessment of the ecological status of Lepidium papilliferum indicates that the six remaining high-quality (A-ranked) L. papilliferum occurrences are threatened by fire, off-road vehicle use, habitat degradation and trampling resulting from livestock, powerline/pipeline maintenance activities, and illegal dumping (M. Mancuso, *in litt.*, 1998; Mancuso 2000). These six occurrences are located on mixed land ownerships consisting of BLM, State, and private land.

Military training activities and the development of the 4,856 ha (12,000 ac) Juniper Butte ETR in southwestern Idaho by the Air Force is also a threat to the species, and it is expected that direct impacts due to construction and training activities will result in the loss of Lepidium papilliferum within the 121 ha (300 ac) primary ordnance impact zone (Air Force 1998, 2000). The Juniper Butte ETR contains occupied and potentially suitable habitat for L. papilliferum (A. DeBolt, *in litt.*, 1998; Air Force 1998; 1999; ICDC 1999); surveys conducted in June 1998 indicate that at least 1,000 plants were present (Air Force 1999). The Air Force constructed facilities within the 121 ha (300 ac) primary ordnance impact zone during 2000 and 2001, and to avoid impacts to some slickspots, the Air Force shifted the locations of several industrial complex buildings just prior to construction. Although fire protection has been made a priority, it is inevitable that fire will occur due to proposed training activities throughout the Juniper Butte ETR. The overall habitat quality in the Juniper Butte ETR ranges from moderate to low since portions of the area burned several years ago (A. DeBolt, pers. comm., 1999) and have been reseeded to nonnative perennial grasses.

An additional potential threat to Lepidium papilliferum on the Juniper Butte ETR within the primary ordnance impact area is the impact of dropping bombs on slickspots. Each bomb weighs approximately 11 kilograms (25 pounds) (Air Force 2000), and even though they are inert and will not explode, dropping

them from planes onto slickspots could compact the soil and crush plants. Because the slickspots are relatively small, it would be difficult to avoid them on the bombing range. However, this threat is considered minimal as the Air Force intends to use only 121 ha (300 ac) or 2.5 percent of the entire Juniper Butte ETR as the actual bombing impact area (Air Force 2001), and because this area contains only 3 percent of the total occupied L. papilliferum habitat.

Lepidium papilliferum occurs on BLM lands called the Orchard Training Area, where the IDARNG has been conducting its military training exercises since 1953 under a Memorandum of Understanding between the two agencies (Quinney 2000). Over the past 12 years, IDARNG has implemented actions to meet the conservation needs of L. papilliferum, while still providing for military training activities. These actions include intensive fire suppression efforts, and restricting ground operated military training to where the plants and its habitat are not found.

Gravel or cinder mining threatens at least two occurrences of Lepidium papilliferum on State and Federal lands (M. Mancuso, *in litt.*, 1998; A. DeBolt, pers. comm., 1999). These occurrences, located at Tenmile Creek and Fraser Reservoir, currently support high-quality (A-ranked) habitat for this species (M. Mancuso, *in litt.*, 1998). Ongoing mining activity and off-road vehicle use are present at the Fraser Reservoir site, which is on both BLM and State land. The Tenmile Creek site has been affected by recent, apparently illegal mining activity (A. DeBolt, pers. comm., 1999); this site is on BLM and private land. Gravel deposits located near Boise are considered to be especially valuable for mining since the gravel does not have to be shipped long distances to market (A. DeBolt, pers. comm., 2002).

B. Overutilization for commercial, recreational, scientific, or educational purposes.

The plant is not a source for human food, nor is it currently of commercial horticulture interest. Therefore, overutilization is not considered to be a threat to this species at the present time.

C. Disease or predation.

The effects of overgrazing by livestock (generally defined as greater than 45 percent use of the available forage) in shrub-steppe habitats has been well documented (Yensen 1980; Whisenant 1990; Noss *et al.* 1995; Holechek *et al.* 1998; Belnap *et al.* 1999; Holechek *et al.* 1999). Although grazing of Lepidium papilliferum by cattle appears low, and infrequent by other herbivores (Popovich 2001), spring-grazing sheep have been observed to uproot L. papilliferum plants. Since L. papilliferum is apparently unpalatable, sheep rarely consume the plants but simply pull them from the ground while foraging, killing the plants (D. Quinney and J. Weaver, pers. comm., 1998). Recent studies from 1994 to 1999 reported that as much as 50 percent or more of the L. papilliferum plants at various monitoring sites on the Snake River Plain were damaged or destroyed by cattle and sheep grazing and trampling (Moseley 1994; J. Weaver, *in litt.*, 1998; Mancuso 2000). For additional discussion on livestock grazing threats to this species, see Factors A and E.

33. The Proposed Rule citations of Moseley (1994); Weaver (*in litt.*); and Mancuso (2000) as sources for the statement “recent studies from 1994 to 1999 reported that as much as 50 percent or more of the L. papilliferum plants at various monitoring sites on the Snake River Plain were damaged or destroyed by cattle and sheep grazing and trampling” is not accurate. Neither Moseley (1994), nor Mancuso (2000) reported any such thing: these two citations should be removed for this statement.

34. The statement that the removal by livestock grazing of 45% of the available forage is the general definition of overgrazing is incorrect. The definition of “overgrazing” is: “Grazing that exceeds the recovery capacity of the individual species or plant community.” (National Range and Pasture Handbook, 1997). “Overgrazed range” is defined as “Rangeland that has experienced loss of plant cover and accelerated erosion because of heavy grazing or browsing pressure.” Percent utilization of current years forage is merely the removal of current years herbage production, and is one method of monitoring grazing intensity. Utilization gives no measure of whether a particular area is overgrazed or of the likelihood, particularly in the short term, that the site is being either satisfactorily or unsatisfactorily managed. Overgrazing is an expression of a cumulative and general measure of poor rangeland health. It is determined by measuring a number of “indicators” including, but not limited to, plant species composition, plant vigor and reproductive ability, and amount of litter and/or bare soil (NRPH, 1997, Holechek, 2001).
35. Documentation of L. papilliferum foraging by cattle and sheep is rare: the plant apparently is of low palatability to both species. When grazing does occur it is likely that it is incidental or the “sampling” by young animals beginning to determine foraging preferences. Where other vegetation species are available for grazing, all indications are that L. papilliferum will be avoided. It could be hypothesized that when animals are kept from grazing for relatively long periods such as might occur when livestock are transported or trucked from site to site, that they would consume L. papilliferum and other relatively unpalatable species in the immediate area where they are off-loaded. However, during normal grazing activities, all classes of cattle tend to be surprisingly selective in their choice of plants.
36. Sheep are even more selective and efficient foragers: their narrow mouth and nimble lips are designed for selecting particular plants and plant parts. In fact, they are capable of selecting individual leaves from plants. Again, if sheep consume L. papilliferum, it is likely a learning experience of younger animals.

Herbivory by beetles has been observed on Lepidium papilliferum plants (M. Mancuso, in litt., 1998). Although some plants were nearly defoliated and may have been killed by beetle herbivory, it is not considered to be a major threat at this time. However, the effects of threats such as insect herbivory on L. papilliferum may become more detrimental as population sizes are reduced.

D. The inadequacy of existing regulatory mechanisms.

Lepidium papilliferum is considered a sensitive species by the BLM (J. Klott, pers. comm., 2002; ICDC 2002). The BLM has regulations that address the need to protect sensitive, candidate, and Federally listed species, and monitoring L. papilliferum on Federal lands has been initiated. Monitoring helps to identify threats and management actions that may be necessary to control habitat degradation, but the effects of activities such as livestock use of the habitat have not been evaluated for most L. papilliferum occurrences managed by the BLM. Numerous occurrences on Federal lands are threatened by nonnative weeds, herbicide spraying, mining, off-road vehicle use, and habitat degradation through increased fire frequency (see Factors A and E for additional information). Land exchanges involving the transfer of BLM land supporting Lepidium papilliferum into private ownership are a potential threat to this species.

For example, a land exchange is currently proposed whereby the BLM would sell 12 ha (30 ac) of a 16 ha (40 ac) parcel to a private developer in the foothills of Boise, ID, as part of a larger land exchange. BLM would retain the 4 ha (10 ac) that contains a population of L. papilliferum. The 12 ha (30 ac) would be sold with a conservation easement and the developer would be required to fence the perimeter of the 4 ha (10 ac) retained in BLM ownership. With the 4 ha (10 ac) site surrounded by residential development, L. papilliferum habitat becomes fragmented and the population isolated from other L. papilliferum populations (A. DeBoldt, pers. comm., 2002). Future land exchanges are a continuing threat since BLM lands occupied by L. papilliferum could potentially support activities such as farming and mining, and may be sold for development purposes.

A conservation agreement with the City of Boise was completed in 1996 for the Hulls Gulch Reserve in the foothills north of Boise, which includes minimal habitat for Lepidium papilliferum (Service, *in litt.*, 1996). The L. papilliferum habitat within the Hulls Gulch Reserve, restricted to less than 2 m² (21.5 ft²), is very low quality (D-rank), vulnerable to disturbances from an adjacent trail, and a housing development (Mancuso 2000), and represents only one occurrence of L. papilliferum.

Lepidium papilliferum is considered to be rare and imperiled at the global and State scale (G2/S2 rating) by the Idaho Natural Heritage Program (Idaho Native Plant Society 1999; Air Force 2000). However, Idaho has no endangered species legislation that protects threatened or endangered species.

37. The proposed rule cites the Idaho Native Plant Society (1999) and the Air Force (2000) as sources for the statement “*Lepidium papilliferum* is considered to be rare and imperiled at the global and state scale (G2/S2 rating) by the Idaho Natural Heritage Program”. Idaho Natural Heritage Program should be changed to Idaho Conservation Data Center; and reference to the Idaho Native Plant Society and the Air Force should be deleted. These entities simply used rankings published by the CDC.

E. Other natural or manmade factors affecting its continued existence.

Because the majority of populations of Lepidium papilliferum are extremely small (fewer than 5 plants per slickspot), and existing habitat is fragmented by agricultural conversion, fire, grazing, roads, and urbanization, local extirpation is a threat to this species. Habitat fragmentation has also likely resulted in reduced gene flow between populations (M. Mancuso, *in litt.* 1998), thus inhibiting dispersal and recolonization of potentially suitable habitat areas. The small size of many populations presents a threat to their survival due to environmental and genetic factors (Moseley 1994). In addition, less than 2,246 ha (5,550 ac) of high-quality (with A-ranked occurrences) potential habitat, with slickspots scattered throughout, exists for this species (M. Mancuso, *in litt.*, 1998; ICDC 2002), which may not be adequate to ensure the long-term persistence of L. papilliferum. In 1999, new threats, including off-road vehicle use, cinder and gravel mining claims, and residential development, were observed at 7 (14 percent) of the 40 occurrences monitored, indicating a continuation of the threats associated with this species (Mancuso 2000).

38. The Proposed Rule states “because the majority of populations of *Lepidium papilliferum* are extremely small (fewer than 5 plants per slickspot)...” Where did this fewer than 5 plants statement come from? It is not true.

- 39. The use of Mancuso (*in litt.* 1998) as the source for the statement “habitat fragmentation has also likely resulted in reduced gene flow between populations” is wrong. Mancuso has never made this assertion in any of his reports.**
- 40. The Proposed Rule states “In addition, less than 2,246 ha (5,550 ac) of high quality (with A-ranked occurrences) potential habitat, with slickspots scattered throughout, exists for this species (Mancuso, *in litt.* 1998; ICDC 2002)”. How did USFWS come up with these numbers? There is no reference to such numbers in either reference cited. This statement is not true.**

We have carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by the species in determining the status of Lepidium papilliferum. The small amount of occupied habitat, combined with ongoing threats make this species vulnerable to extinction. Most of the remaining sites that support L. papilliferum are small and fragmented, and existing occurrences are vulnerable to impacts from factors including grazing, trampling, herbicide use, military training, competition from nonnative vegetation, urban and agricultural development, and habitat degradation from frequent fires. Seventy-four percent of L. papilliferum occurrences are either completely or partially on Federal land managed primarily by the BLM and Air Force, and may be afforded some level of protection. Approximately 32 percent of L. papilliferum occurrences occur either partially or wholly on private lands. Of the 70 extant occurrences, only 6 (9 percent) are considered to be viable (A-ranked).

- 41. The statement “of the 70 extant occurrences, only 6 (9 percent) are considered viable (A-ranked)” is misleading. Many other occurrences not A-ranked by the CDC are also “viable”.**

Existing regulatory mechanisms are inadequate or ineffective in protecting this taxon. One conservation agreement has been developed and implemented for Lepidium papilliferum; however, it covers only one occurrence of the species representing less than 1.5 percent of the extant occurrences. Based on our evaluation, L. papilliferum meets the definition of endangered under the Act, which is a species in danger of becoming extinct throughout all or a significant portion of its range.

- 42. We disagree with the statement that regulatory mechanisms are inadequate or ineffective for protection of L. papilliferum. The BLM, Idaho Army National Guard, and the State of Idaho have been intensively monitoring and inventorying for L. papilliferum for about a decade. Research is on going, and new research is being proposed to investigate habitat requirements and potential effects of management activities on the species. Regulatory and mitigation efforts for current and potential management activities are also in place by which field office staff address potential conflicts by developing alternatives that prevent or minimize significant impacts to L. papilliferum. See comment # 24.**

- 43. The lack of development of conservation agreements is also mentioned as a basis for consideration of listing. In reviewing the Administrative Record on the Proposed Rule, there is a letter dated February 6, 1997, from Mr. Robert Ruesinck to Jerry Kidd, BLM, notifying him the USFWS was discontinuing their participation in the development of a conservation agreement. Copies of**

letters from the Idaho Army National Guard, the US Air Force, and the Bureau of Land Management are also on record stating each party's disappointment that the FWS was abandoning conservation efforts with their agencies.

- 44. It is troubling that USFWS abandoned these earlier L. papilliferum conservation efforts, but now proposes to list this same species as endangered. It is even more discouraging that USFWS abandoned support for development and use of a conservation agreement, but now cites lack of such an agreement as a reason to list L. papilliferum.**

Critical Habitat

Critical habitat is defined in section 3 of the Act as the--(i) specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the Act, on which are found those physical or biological features (I) essential to the conservation of the species, and (II) that may require special management considerations or protection, and (ii) specific areas outside the geographical area occupied by the species at the time it is listed in accordance with the provisions of section 4 of the Act, upon a determination by the Secretary that such areas are essential for the conservation of the species. "Conservation" means the use of all methods and procedures needed to bring the species to the point at which listing under the Act is no longer necessary.

Section 4(a)(3) of the Act and implementing regulations (50 CFR 424.12) require that, to the maximum extent prudent and determinable, we designate critical habitat at the time the species is determined to be endangered or threatened. Our implementing regulations (50 CFR 424.12(a)) state that critical habitat is not determinable if information sufficient to perform the required analysis of impacts of the designation is lacking, or if the biological needs of the species are not sufficiently well known to allow identification of an area as critical habitat. Section 4(b)(2) of the Act requires us to designate critical habitat on the basis of the best scientific and commercial data available and to consider economic and other relevant impacts of designating a particular area as critical habitat on the basis of the designating a particular area as critical. The Secretary may exclude any area from critical habitat if she determines that the benefits of such exclusion outweigh the conservation benefits, unless to do so would result in the extinction of the species. In the absence of a finding that critical habitat would increase threats to a species, if any benefits would derive from critical habitat designation, then a prudent finding is warranted. In the case of this species, designation of critical habitat may provide some benefits.

The primary regulatory effect of critical habitat is the section 7 requirements that Federal agencies refrain from taking any action that destroys or adversely modifies critical habitat. While a critical habitat designation for habitat currently occupied by this species would not be likely to change the section 7 consultation outcome because an action that destroys or adversely modifies such critical habitat would also be likely to result in jeopardy to the species, there may be instances where section 7 consultation would be triggered only if critical habitat is designated. Examples could include unoccupied habitat or occupied habitat that may become unoccupied in the future. Designating critical habitat may also produce some educational or informational benefits. Therefore, designation of critical habitat for Lepidium papilliferum is prudent.

However, our budget for listing activities is currently insufficient to allow us to immediately complete all the listing actions required by the Act. Listing Lepidium papilliferum without designation of critical habitat will allow us to concentrate our limited resources on higher priority listing actions, while allowing us to put in place protections needed for the conservation of this species without further delay. This is

consistent with section 4(b)(6)(C)(i) of the Act, which states that final listing decisions may be issued without critical habitat designations when it is essential that such determinations be promptly published. The legislative history of the 1982 Act amendments also emphasized this point: “The Committee feels strongly, however, that, where biology relating to the status of the species is clear, it should not be denied the protection of the Act because of the inability of the Secretary to complete the work necessary to designate critical habitat. * * * The committee expects the agencies to make the strongest attempt possible to determine critical habitat within the time period designated for listing, but stresses that the listing of species is not to be delayed in any instance past the time period allocated for such listing if the biological data is clear but the habitat designation process is not complete” (H.R. Rep. No. 97-567 at 20 (1982)). We will prepare a critical habitat designation in the future when our available resources and priorities allow.

45. The state believes the biological needs of L. papilliferum are not sufficiently well known to allow identification of an area as critical habitat. Specifically, there are substantial acreages of land within the historic range of the species in sagebrush steppe habitat with slickspots where the plant has not been found. It is unknown if these areas ever supported populations of L. papilliferum. It therefore may be unnecessary to include them in a critical habitat designation. Studies are currently underway and planned to determine why some slickspots support L. papilliferum and others do not. Until a better understanding of the specific habitat requirements of L. papilliferum is gained the Service cannot make fully informed judgements in designating critical habitat for this species. The state concurs with the proposal in the proposed rule to delay designation of critical habitat but we believe that in addition to available resources and priorities the Service needs more definitive information as well.

Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened under the Act include recognition, recovery actions, requirements for Federal protection, and prohibitions against certain activities. Recognition through listing encourages public awareness and results in conservation actions by Federal, State, and private agencies, groups, and individuals. The Act provides for possible land acquisition and cooperation with the State and requires that recovery actions be carried out for all listed species. The protection required of Federal agencies and the prohibitions against certain activities involving listed plants are discussed, in part, below.

Section 7(a)(2) of the Act requires Federal agencies, including the Service, to evaluate their actions with respect to critical habitat, if any is being designated. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR part 402. Section 7(a)(4) of the Act requires Federal agencies to confer with us on any action that is likely to jeopardize the continued existence of a proposed species, or result in destruction or adverse modification of proposed critical habitat. If a species is listed subsequently, section 7(a)(2) requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of such a species, or destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible federal agency must enter into consultation with us.

Federal agencies that may have involvement with Lepidium papilliferum include the Federal Housing Administration and Farm Services Agency, which may be affected through potential funding of housing and farm loans where this species or its habitat occurs. Highway construction and maintenance projects that receive funding from the U.S. Department of Transportation for Federal highways will also be subject to review under section 7 of the Act. In addition, activities or actions that may affect populations

of L. papilliferum that occur on Federal lands (e.g., managed by the BLM or Department of Defense) will be subject to section 7 review. Activities on private, State, county or city lands requiring a permit or funding from a Federal agency, such as a permit from the U.S. Army Corps of Engineers under section 404 of the Clean Water Act, or some other Federal action, including funding (e.g., from the Federal Highway Administration or Federal Emergency Management Agency), will also be subject to the section 7 consultation process. Federal actions not affecting the species, as well as actions on non-Federal lands that are not federally funded, authorized, or permitted do not require section 7 consultation.

The Act and its implementing regulations set forth a series of general prohibitions and exceptions that apply to all endangered or threatened plants. With respect to Lepidium papilliferum, all prohibitions of section 9(a)(2) of the Act, implemented by 50 CFR 17.61 for endangered plants, apply (16 U.S.C. 1538(a)(2)). These prohibitions, in part, make it illegal for any person subject to the jurisdiction of the United States to import or export, transport or ship in interstate or foreign commerce in the course of a commercial activity, sell or offer for sale in interstate or foreign commerce, or remove and reduce to possession from areas under Federal jurisdiction, any plant listed as an endangered or threatened species. In addition, for plants listed as endangered, the Act prohibits the malicious damage or destruction on areas under Federal jurisdiction and the removal, cutting, digging up, or damaging or destroying of such endangered plants in knowing violation of any State law or regulation, including State criminal trespass law. Certain exceptions to the prohibitions apply to our agents and State conservation agencies.

The Act and 50 CFR 17.62 and 17.63 also provide for the issuance of permits to carry out otherwise prohibited activities involving endangered plant taxa under certain circumstances. Such permits are available for scientific purposes and to enhance the propagation or survival of the species.

Our policy, published in the Federal Register on July 1, 1994 (59 FR 34272), is to identify, to the maximum extent practicable, those activities that would or would not constitute a violation of section 9 of the Act at the time of listing. The intent of this policy is to increase public awareness of the effects of this listing on proposed and ongoing activities within the species' range. Collection, damage or destruction of this species on Federal land is prohibited, although in appropriate cases a Federal permit could be issued to allow collection for scientific or recovery purposes.

Activities that we believe could potentially result in a violation of section 9 include, but are not limited to:

- (1) Grazing levels within L. papilliferum habitat that promote the invasion of nonnative species;
- (2) Placement of water, salt, and fences for livestock and its associated use within L. papilliferum habitat;
- (3) Grazing during wet periods that results in the disturbance of slickspot hydrology;
- (4) Fire rehabilitation that does not reseed to native shrub-steppe habitat and maintain slickspot integrity;
- (5) Failure to control wildfires in shrub-steppe habitats;
- (6) Residential or commercial development within shrub-steppe habitat with slickspots;
- (7) Uncontrolled off-road vehicle use and other recreational activities in L. papilliferum habitats;
- (8) Federal land exchanges that may result in the loss or degradation of L. papilliferum habitat; and

(9) Application of pesticides/herbicides in violation of label restrictions.

46. Data in the report “*Lepidium papilliferum*, Data Report, Idaho Army National Guard, 2/2000”, indicate that despite the report of “severe” spring grazing on portions of the Orchard Training Range (OTA), no negative impacts on long-term trend of the habitat parameters investigated occurred between 1991 and 1998. Though we did not have the complete data set or description of methodology, the grazing records available to us indicate little change in the grazing periods through the term of the study. Whereas parameters measured; “Cryptogam Cover”, “Native Plant Ground Cover”, “Native Plant Canopy Cover”, “Native Grass Canopy”, and “Native Grass Ground Cover” revealed annual fluctuations but exhibited static or upward long-term (1991-1998) trends.

We believe that activities that are unlikely to violate section 9 include any agricultural or residential uses on non-Federal land. We are not aware of any otherwise lawful activities being conducted or proposed by the public that will be affected by this listing and result in a violation of section 9.

Questions regarding whether specific activities may constitute a violation of section 9 should be directed to the Field Supervisor of the Snake River Basin Office (see FOR FURTHER INFORMATION CONTACT). Requests for copies of the regulations on listed plants and animals, and general inquiries regarding prohibitions and permits, may be addressed to the U.S. Fish and Wildlife Service, Ecological Services, Endangered Species Permits, 911 N.E. 11th Ave., Portland, OR 97232-4181 (telephone 503/231-2063; facsimile 503/231-6243).

Public Comments Solicited

We intend that any final action resulting from this proposal will be as accurate and as effective as possible. Therefore, we are soliciting comments or suggestions from the public, other concerned governmental agencies, the scientific community, industry, or any other interested party concerning this proposed rule. We particularly seek comments concerning:

- (1) Biological, commercial trade, or other relevant data concerning any threat (or lack thereof) to this species;
- (2) Additional information concerning the range, locations, and population size of this species;
- (3) Land use practices and current or planned activities in the subject areas and their possible impacts on this species; and
- (4) The reasons why any habitat should or should not be determined to be critical habitat pursuant to section 4 of the Act, including whether the benefit of designation will outweigh any benefits of exclusion;

If you submit comments by e-mail, please submit them as an ASCII file and avoid the use of special characters and any form of encryption. Please also include “Attn: RIN 1018-AI50” and your name and return address in your e-mail message. If you do not receive a confirmation from the system that we have received your e-mail message, contact us directly by calling our Snake River Fish and Wildlife Office at telephone number 208/378-5243.

Our practice is to make comments, including names and home addresses of respondents, available for public review during regular business hours. Individual respondents may request that we withhold their home address from the rulemaking record, which we will honor to the extent allowable by law. There also may be circumstances in which we would withhold from the rulemaking record a respondent’s identity, as

allowable by law. If you wish us to withhold your name and/or address, you must state this prominently at the beginning of your comment. However, we will not consider anonymous comments. We will make all submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, available for public inspection in their entirety. Comments and materials received will be available for public inspection, by appointment, during normal business hours at the Snake River Basin Office (see ADDRESSES).

In making any final decision on this proposal, we will take into consideration the comments and any additional information we receive, and such communications may lead to a final regulation that differs from this proposal.

Public Hearings

In anticipation of public interest in this issue, a public hearing has been scheduled for Thursday, August 29, 2002, from 1:00 p.m. until 3:00 p.m. and from 6:00 p.m. until 8:00 p.m. at the AmeriTel Inn/Boise Spectrum, 7499 W. Overland Rd, Boise, ID. Anyone wishing to make oral comments for the record at the public hearing is encouraged to provide a written copy of their statement and present it to us at the hearing. In the event there is a large attendance, the time allotted for oral statements may be limited. Oral and written statements receive equal consideration.

Persons needing reasonable accommodations in order to attend and participate in the public hearing should contact Patti Carroll at 503/231-2080 as soon as possible. In order to allow sufficient time to process requests, please call no later than 1 week before the hearing date.

Peer Review

In accordance with our policy published in the Federal Register on July 1, 1994 (59 FR 34270), we will seek the expert opinions of at least three appropriate and independent specialists regarding this proposed rule. The purpose of such review is to ensure that listing decisions are based on scientifically sound data, assumptions, and analyses. We will send the peer reviewers copies of this proposed rule immediately following publication in the Federal Register. We will invite them to comment, during the public comment period, on the specific assumptions and conclusions regarding the proposed listing of Lepidium papilliferum.

National Environmental Policy Act

We have determined that an environmental assessment and/or an environmental impact statement, as defined by the National Environmental Policy Act of 1969, need not be prepared in connection with regulations adopted pursuant to section 4(a) of the Endangered Species Act, as amended. We published a notice outlining our reasons for this determination in the Federal Register on October 25, 1983 (48 FR 49244).

Executive Order 12866

Executive Order 12866 requires agencies to write regulations that are easy to understand. We invite your comments on how to make this proposal easier to understand including answers to questions such as the following--(1) Are the requirements in the document clearly stated? (2) Does the proposed rule contain technical language or jargon that interferes with the clarity? (3) Does the format of the proposed rule (grouping and order of sections, use of headings, paragraphing, etc.) aid or reduce its clarity? (4) Is the description of the proposed rule in the SUPPLEMENTARY INFORMATION section of the preamble helpful in understanding the proposed rule? What else could we do to make the proposed rule easier to understand?

Send a copy of any written comments about how we could make this rule easier to understand to: Office

of Regulatory Affairs, Department of the Interior, Room 7229, 1849 C Street NW, Washington, DC 20240. You also may e-mail comments to: Exsec@ios.doi.gov.

Paperwork Reduction Act

This rule does not contain any new collections of information that require approval by OMB under the Paperwork Reduction Act. This rule will not impose record keeping or reporting requirements on State or local governments, individuals, businesses, or organizations. An agency may not conduct or sponsor and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. The existing OMB control number is 1018-0094 for permit applications regarding endangered and threatened species; this control number expires 7/31/2004.

Executive Order 13211

On May 18, 2001, the President issued Executive Order 13211 on regulations that significantly affect energy supply, distribution, and use. Executive Order 13211 requires Federal agencies to prepare Statements of Energy Effects when undertaking certain actions. This rule is not expected to significantly affect energy supplies, distribution, or use. Therefore, this action is not a significant action, and no Statement of Energy Effects is required.

References Cited

A complete list of all references cited in this document, is available upon request from the Snake River Basin Office (see ADDRESSES section).

Author(s)

The primary authors of this proposed rule are Jeri Wood, U.S. Fish and Wildlife Service, Snake River Basin Office (see ADDRESSES), and Barbara Behan U.S. Fish and Wildlife Service, Regional Office, Portland, OR.